

## SPECIFICATIONS AMENDMENTS

1. At page 10, line 3, please add the following new paragraph:

FIG. 7 is a representative exploded view of another preferred embodiment of the automatic cover enclosure bench system 104' of the present invention.

2. Please replace the paragraph starting at page 11, line 19, with the following paragraph:

FIG.1A is a representative plan view of a preferred embodiment of the present invention showing the location and movement of the automatic cover enclosure bench system 104 adjacent the swimming pool 102. FIG.1B is a representative plan view of a preferred embodiment of the present invention, such as shown in FIG. 1A, showing the location and movement of the automatic cover enclosure bench system 104 advanced beyond the edge 112 of the swimming pool 102. FIG.1C is a representative cross section view of a preferred embodiment of the present invention, such as shown in FIG. 1A, showing the location and movement of the automatic cover enclosure bench system 104 advanced beyond the swimming pool 102.

3. Please replace the paragraph starting at page 12, line 1, with the following paragraph:

As shown best in FIG. 1A, the automatic cover enclosure bench system 104 is located outside the swimming pool 102, such as on an edge 112, at one end or on one side As shown in FIGS. 1B and 1C, movement of this configuration of the bench 104 is lengthwise with regard to the length of the swimming pool 102. The orientation of movement of the automatic cover enclosure bench system 104 can be modified according to the shape of the swimming pool102.

4. Please replace the paragraph starting at page 12, line 7, with the following paragraph:

The automatic cover enclosure bench system 104 is located completely outside the swimming

pool 102 and is free to travel independent thereof. There is a usable area ~~112~~ 113 between the edge 112 of the swimming pool 102 and the automatic cover enclosure bench system 104. This ensures the system 104 is not submerged in water and can be moved towards a point 114 away from the edge of the pool 102, to eliminate a potential electric shock, a safety hazard. It will be understood that the bench 104 can be moved as far away to point 114 as desired, however modifications in the design of this invention will be required when moving the bench 104 greater than about 18-36 inches, or more or less, away from the edge 112 of the pool 102.

5. Please replace the paragraph starting at page 13, line 20, with the following paragraph:

The present invention is also a method of moving or sliding a bench 104 housing a pool cover 101 drive roller or drum. The system is powered by a hydraulic motor with the limited travel distance 108 restricted at both ends by the limit switch device. Tracks 302 and 304 constrain the travel of concave wheel surfaces of wheels 306, 308, 310 and 312, respectively. Gear sprockets 326 and 324, having a slightly smaller diameter so as not to interfere with the wheels' 310 and 312 motion on the track 302 and 304, are attached to wheels 310 and 312, respectively. The diameter of wheels 310 and 312 is at a preset ratio to the length of travel of hydraulic or pneumatic cylinder 206 so as to achieve the proper distance of travel 108 of the bench 104. Disposed around the circumference of the gear sprockets 326 and 324 are section of the drive chain 334 and 332. The drive chains 334 and 332 are designed to be sufficiently long to achieve the required travel. The ends of the drive chain 334 and 332 are suitably attached to cable portions 342 and 344, as shown.

6. Please replace the paragraph starting at page 14, line 6, with the following paragraph:

When pressure is applied through port 358 of cylinder 206, cylinder rod 356 will travel inward or retract. The movement causes cable portion 352, which is attached to a constrained attachment and

subsequently to the end of the cylinder rod 354 356 , to move in the direction of arrow AA shown in Fig. 2 3 . It will then pull chain 334, which is attached the cable 340, in a vertically upward direction. The movement will subsequently cause gear sprocket 326 to rotate in the counterclockwise direction, and wheel 310 to rotate counterclockwise clockwise on the track 304. Wheel 306 will then follow and rotate to the exact same degree as wheel 310 on track 304.

7. Please replace the paragraph starting at page 14, line 14, with the following paragraph:  
Simultaneously, cable 342, which is connected to turnbuckle 350, will move as shown by directional arrow BB of the page in FIG. 2 3 . The function of turnbuckle 350 is to adjust the tension between cables 342 and 344. The movement of cable 342 in the direction shown as BB then acts on cable 344 and subsequently drive chain 332 to move vertically upward as shown by directional arrow CC. The upward movement will then engage gear sprocket 324 and wheel 312 to also rotate simultaneously to the exact same degree as gear sprocket 326 and wheel 314, in a counterclockwise clockwise direction on track 302. Wheel 308 will then follow and rotate to the exact same degree as wheel 312 on track 302.

8. Please replace the paragraph starting at page 14, line 22, with the following paragraph:  
The combine counterclockwise combined clockwise rotation of wheel 310 and 306 on track 304 and wheel 312 and 308 on track 302 will then account for the consequential movement of the entire automatic cover enclosure bench system 104 in one direction. as shown by directional arrows DD.

9. Please replace the paragraph starting at page 15, line 1, with the following paragraph:  
The description of the action of all the above-mentioned elements can be reversed by releasing hydraulic or pneumatic pressure from the port 358. Rotation of gear sprocket 324 and 326 and wheel 310 and 312 is therefore counterclockwise clockwise on the track 302 and 304 respectively. Wheel 306 and

308 will then follow and have clockwise counterclockwise rotation on track 304 and 302 respectively.

As a result, the cover enclosure bench system 104 will be moved backwards, in the opposite direction, as shown by directional arrows EE.

10. Please replace the paragraph starting at page 15, line 7, with the following paragraph:

Travel of the cover enclosure bench system 104 can be automatically kept aligned and constrained by surfaces 330, 316, 314 and 328 on the bench making contact with floor mounted brackets 320 and 314 318 respectively which are sized appropriately for the correct length of travel 108 of bench 104. Optionally, these surfaces 330, 316, 314 and 328 may be provided with contact sensors or motion detectors or relays or mechanical switches which transfer a control signal back to a power pack 202 or other controller, thereby controlling and delimiting forward and reverse motion of the bench.

11. Please replace the paragraph starting at page 15, line 20, with the following paragraph:

As best shown in FIGS. 4 and 5, the whole system 104 is completely housed in the composite beam enclosure structure 402 as described in the inventor's previous U.S. Patent No. 5,927,042, which is hereby incorporated by reference in its entirety, or other suitable and appropriate swimming pool components and waterproof building materials. The system 104 is further powered by a power pack pump 202 that supplies the complete hydraulics to the automatic cover enclosure bench system 104. In a preferred embodiment, the power pack pump 202 is electrically powered and is connected to power source 404 via power cable and connectors 406. The power pack pump 202 and its power source 404 are physically remote from the automatic cover enclosure bench system 104 and are connected by two hydraulic interchangeable supply and return lines 212. This ensures that the electrical components are never located in the bench 104 or anywhere near the edge 112 of the swimming pool 102. The cylinder piston rod 356 and cylinder 206 moves the overall automatic cover enclosure bench system 104 within

the range of the restricted travel distance 108.

12. Please replace the paragraph starting at page 17, line 19, with the following paragraph:

Thus, it will be understood that the hydraulic pump or power pack pump 202 can be located at a distal point from the bench 104 and have connection with the bench system 104 only by hydraulic fluid lines 212. As described, the hydraulic fluid lines 212 can be connected directly to the fluid ports 358 and 360 of piston cylinder 106 206. They can also be connected to a master hydraulic fluid valve/rotor cap/diverter valve assembly 420 which serves to distribute actuation of not only the lateral, back and forth pool-side positioning of the present bench system 104 on tracks 302 and 304, but also optionally opening and closing of one of the bench panel members, i.e., the top 408, a side panel 402, etc. as well as optionally driving the central drive shaft 502 of the cover 101 drum bench enclosure 104.

13. At page 18, line 14, please add the following new paragraphs:

FIG. 7 is a representative exploded view of another preferred embodiment of the automatic cover enclosure bench system 104' of the present invention. In this embodiment, an electric motor 206'  
replaces the pneumatic or hydraulic cylinder 206 (as shown in FIG. 3).

As best shown in FIGS. 3 and 7, the present invention is also a method for moving a swimming pool cover drum 104 on which a swimming pool cover 101 has been wound away from the edge 112 of a swimming pool 102. The method comprises the following steps: obtaining a swimming pool cover drum 104 having a set of wheels 306, 308, 310 and 312 and a hydraulic or pneumatic cylinder 206 or electric motor 206' coupled to the set of wheels 306, 308, 310 and 312 via mechanical linkage including cylinder piston rod 356, constrained translating attachment assembly 354, and drive cable 340u drive chains 334

and 332 and gear sprockets 326 and 324; and actuating the hydraulic or pneumatic cylinder 206 such that the set of wheels 306, 308, 310 and 312 are rotated in a direction which moves the swimming pool cover drum 104 toward or away from the side of the swimming pool 102.

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AMENDMENT AND RESPONSE TO PAPER MAILED 07/12/2004

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Page 13 of 24

Title: **TRAVELING COVER BENCH SYSTEM WITH HYDRAULIC FLUID ACTUATOR**

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